

# Software Reuse Archive - Open Source

Open source or open source software (OSS) is any computer software distributed under a license which allows users to change and share the software freely. Open source software is required to have its source code freely available and end-users have the right to modify and redistribute the software to others.

Open source projects support a collaborative development model whereby developers from multiple organizations can read, modify, and redistribute the source code. In the process of doing this the software evolves as people improve it, adapt it, and fix bugs. Proponents of the open source development model claim that, in many ways, it is superior to the closed source approach. An active open source development community can develop software with superior stability, reliability, and security to that developed using other development models. This collaborative development model can also be particularly attractive to the scientific community where scientific advances are often the result of the combined efforts of researchers in many different organizations.

Software Reuse has identified traditional software licensing mechanisms as a potential barrier to software reuse. Traditional licensing typically requires the reuser to negotiate usage terms and conditions with the intellectual property owner every time that they want to reuse something. This can often be a very time consuming and arduous process. Greater use of open source licensing will help simplify the dissemination of software to the scientific community and promote a more collaborative development model for scientific software.

We recognize that open source licensing is not appropriate for all software. For example, the presence of proprietary code or export control restrictions may be valid reasons for choosing not to go open source. However, where proprietary technology or other intellectual property considerations preclude open source licensing, we would encourage you to make software available for reuse by the community using some other licensing mechanism that does not necessarily expose the source code.

## NASA Open Source Links

- [NASA GSFC Open Source](#) — Open Source Software at Goddard Space Flight Center.
- [NASA Ames Open Source](#) — Open Source Software at NASA Ames Research Center.
- [NASA Open Source Summit 2011](#) — This event discussed the challenges with the existing open source policy framework, and proposed modifications that would make it easier for NASA to develop, release, and use open source software. See links in the Agenda section for notes, ideas, and discussions of issues.
- [NOSA](#) — The NASA Open Source Agreement
- [Developing An Open Source Option for NASA Software](#) — NAS Technical Report (PDF)
- [Cosmic - Open Channel Foundation](#) — Open Channel Software publishes the COSMIC software collection. This collection represents software created by NASA in a wide range of disciplines including engineering, chemistry, aerodynamics, and other areas.

## Non-NASA Open Source Links

- [The Open Source Initiative](#) — The Open Source Initiative (OSI) has some useful information on the definition of open source and open source licenses.
- [The Open Source Definition](#) — The OSI definition of Open Source.
- [The Approved Licenses](#) — OSI approved open source licenses.
- [Center of Open Source & Government](#) — The Center of Open Source & Government provides a number of useful links to resources relevant to Open Source software within government.
- [Open Channel Foundation](#) — This collection represents software in a wide range of disciplines including engineering, chemistry, aerodynamics, and other areas.

For more information:

- [NASA Open Source Agreement](#)